

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Previously Presented) A method for determining a characteristic parameter of an analyte independent of a flow velocity of the analyte, wherein measurement of the characteristic parameter of the analyte is capable of being influenced by or dependent on the velocity of the analyte, said method comprising:
  - (a) transporting a fluid medium comprising the analyte from a first position to a second position of a fluid flow channel of a fluidic device;
  - (b) measuring the characteristic parameter of the analyte within the fluid flow channel at a plurality of different detection zones separated along a flow path of the analyte in between the first and the second positions; and
  - (c) determining a velocity dependence of the measurement of the characteristic parameter and determining the characteristic parameter of the analyte independent of the flow velocity of the analyte by using the measured characteristic parameters of step (b) and normalizing the measurement by substantially eliminating the velocity dependence of the measurement.
2. (Canceled)
3. (Original) The method of Claim 1, wherein said fluidic device is a microfluidic device.
4. (Previously Presented) The method of Claim 3, wherein transporting the fluid medium comprises transporting the fluid medium with a peristaltic pump or by electroosmosis.
- 5–6. (Canceled)
7. (Previously Presented) The method of Claim 1, wherein the characteristic parameter of the analyte is measured in step (b) with a laser beam guiding device that comprises an acousto-optic modulator.

8–9. (Canceled)

10. (Previously Presented) The method of Claim 1, wherein the analyte is a cell, an oligonucleotide or an organic compound.

11. (Original) The method of Claim 10, wherein the analyte is a cell and said method is used for cell sorting.

12. (Previously Presented) The method of Claim 10, wherein the analyte is an oligonucleotide and said method comprises determining the number of nucleotides in the oligonucleotide.

13. (Previously Presented) The method of Claim 12, wherein said step of determining the number of nucleotides in the oligonucleotide comprises:

(A) attaching a fluorescent molecule to the oligonucleotide to produce a modified oligonucleotide prior to measuring velocity independent characteristic parameter of the modified oligonucleotide, wherein said characteristic parameter is an integrated fluorescent peak area of said modified oligonucleotide; and

(B) determining the number of nucleotides in the oligonucleotide by comparing the velocity independent integrated fluorescence peak area of the modified oligonucleotide with a velocity independent fluorescence peak area of a standard oligonucleotide, wherein the velocity independent fluorescence peak area of the standard oligonucleotide has been calibrated to the number of nucleotides present the standard oligonucleotide.